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22801 LEE & HAYES	7590 05/15/200 S. PLLC	EXAMINER		
601 W. RIVER	SIDE AVENUE	STANLEY, MARK P		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/800,251	BARRETT ET AL.
Office Action Summary	Examiner	Art Unit
	MARK P. STANLEY	2427
The MAILING DATE of this communication a Period for Reply	ppears on the cover sheet with the	correspondence address
A SHORTENED STATUTORY PERIOD FOR REF WHICHEVER IS LONGER, FROM THE MAILING - Extensions of time may be available under the provisions of 37 CFR after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory period. - Failure to reply within the set or extended period for reply will, by stat Any reply received by the Office later than three months after the mail earned patent term adjustment. See 37 CFR 1.704(b).	DATE OF THIS COMMUNICATIO 1.136(a). In no event, however, may a reply be to od will apply and will expire SIX (6) MONTHS fror ute, cause the application to become ABANDON	N. imely filed in the mailing date of this communication. ED (35 U.S.C. § 133).
Status		
1) ☐ Responsive to communication(s) filed on 27 2a) ☐ This action is FINAL . 2b) ☐ This action is application is in condition for allow closed in accordance with the practice under the condition of the condition is in condition.	nis action is non-final. vance except for formal matters, pr	
Disposition of Claims		
4) Claim(s) 1-40 is/are pending in the application 4a) Of the above claim(s) is/are withd 5) Claim(s) is/are allowed. 6) Claim(s) 1-40 is/are rejected. 7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and Application Papers 9) The specification is objected to by the Examination 10) The drawing(s) filed on is/are: a) and Applicant may not request that any objection to the	rawn from consideration. I/or election requirement. ner. ccepted or b) objected to by the	
Replacement drawing sheet(s) including the correct to by the	ection is required if the drawing(s) is ol	ojected to. See 37 CFR 1.121(d).
Priority under 35 U.S.C. § 119		
12) Acknowledgment is made of a claim for foreign a) All b) Some * c) None of: 1. Certified copies of the priority docume 2. Certified copies of the priority docume 3. Copies of the certified copies of the priority docume application from the International Bure * See the attached detailed Office action for a li	ents have been received. ents have been received in Applica riority documents have been receive eau (PCT Rule 17.2(a)).	tion No ved in this National Stage
Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 1/26/2009, 3/27/2009.	4) Interview Summar Paper No(s)/Mail [5] Notice of Informal 6) Other:	Date

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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/27/2009 has been entered.

Response to Arguments

2. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

- 3. 35 U.S.C. 101 reads as follows:
 - Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.
- 4. Claims 17, 30, and 36 along with corresponding dependent claims 18-29, 31-35 and 37-40 are rejected under 35 U.S.C. 101 because aforementioned claims 17 and 36 recites "one or more processor-accessible media comprising processor-executable instructions", where given media is not tied directly to a tangible medium the given claims and corresponding dependent claims are thus not statutory.

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In regards to aforementioned claim 30 reciting "an arrangement for architecting distributed sending of media data", Data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory.

Specifically, the originally filed specification defines the media upon which the claimed instructions are carried includes transmission media, see paragraphs [0172-0174].

Claim Rejections - 35 USC § 112

5. Claim 17 and corresponding dependent claims 18-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regards to the limitation of claim 17 "wherein if none of the plurality of devices that store the media data portion would send the media data portion if all of the plurality of devices were consider when calculating the priority", the Applicant does not define whether the plurality of devices that store the media data portion is the entirety or a portion of all of the plurality of devices considering when calculating the priority, nor does the Applicant provide a basis for this scope even when read in light of the specification. As such, corresponding dependent claims 18-29 are also rejected.

Claim Rejections - 35 USC § 103

- 6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 7. Claims 1-16 and 30-40 rejected under 35 U.S.C. 103(a) as being unpatentable over Horn et al. (US 2002/0107968 A1 hereinafter Horn) in view of Dias et al. (US 6,877,072 hereinafter Dias).

Regarding claim 1, Horn discloses "a system comprising:

a plurality of schedulers including a scheduler that is associated with a client and responsible for servicing a media data stream being sent to the client" ([0065]-[0068], [0074]-[0078], where each <u>item 102 MOD</u> server has <u>items 214 and 216</u> schedulers for servicing media to <u>item 104</u> the clients and where <u>item 125</u> the administrative server also has a scheduler for handling send requests communicating with the MOD servers,

where there may be multiple administrative servers and administrative servers may be associated with particular MOD servers and reside on a single device),

"the scheduler adapted to formulate a send request that designates the client as a destination for a media data portion of the media data stream; and" ([0074]-[0078], Figs. 1-2, where requests for <u>item 201</u> the media blocks or <u>item 205</u> media streams is handled and encoded as determined by <u>items 214 and 216</u> the schedulers and then transmitted to the client)

"a plurality of senders including a sender that is associated with media data including the media data portion, the sender adapted to send the media data portion to the client in response to the send request" ([0079], Figs. 1-2, where each <u>item 102 MOD</u> server has <u>item 240</u> for sending the media across <u>item 108</u> the network to <u>item 104</u> the clients).

But, Horn does not explicitly state calculating a priority for the send request and associating a unique global priority with the send request nor where in the sender includes a send request ranker adapted to rank send requests in order of associated unique global priority.

However, Dias discloses a clustered computer system for use with multimedia applications such as video on demand (abstract), where a scheduler located at a file system (col. 6 line 30-43, Fig. 1 item 26) formulates a send request with calculated priority via use of deadline information and fill request (Fig. 3 step 38) and transmits the

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request to the sender (Fig. 1 item 16, Fig. 3 step 40). Subsequently, the sender then ranks the send request according to the priority (col. 7 lines 28-45, Fig. 3 step 42).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Horn for coordinating scheduling of send requests between multiple senders capable of sending the data requested with the teachings of Dias for associating priorities with send requests at a scheduler when coordinating send requests between multiple senders capable of sending the data requested from multiple send requests via ranking at the senders using the priority information. One would have been motivated to do so for the purpose of addressing more urgent requests accordingly (see Dias col. 2 lines 12-41).

Regarding claim 2, Horn and Dias disclose "the system as recited in claim 1, further comprising:

mass storage of media data;" ([0068], Figs. 1, items 108, 115)

wherein the sender is further adapted to acquire portions of the media data that is associated with the sender from the mass storage of media data" ([0076], [0079], Fig. 2, item 240 acquires item 201 the media from the mass storage and sent as determined by the scheduler).

Regarding claim 3, Horn and Dias disclose "the system as recited in claim 1, wherein the scheduler and the sender are functioning on a single device" (Fig. 2, <u>items</u> 214, 216, and 240 are on the same device).

Regarding claim 4, Horn and Dias disclose "the system as recited in claim 1, wherein the scheduler is functioning on a first device, and the sender is functioning on a second device" ([0077], item 125 the administrative server has the ability to perform the operations of the schedulers on each MOD server when communicating with the MOD server which contains item 240 for sending the data, where the administrative server is the first device, and the MOD server is the second device).

Regarding claim 5, Horn and Dias disclose "the system as recited in claim 4, further comprising:

a switch that is coupled to the second device and to the client via a network;" ([0065], [0071])

"wherein the sender is further adapted to send the media data portion to the client via the switch over the network without routing the media data portion through the first device" (Fig. 1, where <u>item 125</u> the first device communicates with <u>item 102</u> the second device, <u>items 108 and 115</u> the media data are not routed through the first device but straight through <u>item 102</u> the second device).

Regarding claim 6, Horn and Dias disclose "the system as recited in claim 4, further comprising:

a first switch that is coupled to the second device and to the client; and a second switch that is coupled to the first device;

wherein the sender is further adapted to send the media data portion to the client via the first switch, and the scheduler is further adapted to transmit the send request to the sender via the second switch" ([0065], [0071]).

Regarding claim 7, Horn and Dias disclose "the system as recited in claim 4, wherein another scheduler is functioning on the second device, and another sender is functioning on the first device; and wherein the other scheduler is associated with another client, and the other sender is associated with other media data" ([0074], each sender of each MOD server has the ability serve a separate portion or entire different block of media data to the same or different clients).

Regarding claim 8, Horn and Dias disclose "the system as recited in claim 1, wherein the media data stream corresponds to a media data segment that is stored by the system, and wherein the sender is functioning on a first device;" ([0074], Fig. 1, where each MOD server has a sender)

"wherein the plurality of senders further include another sender that is functioning on a second device, the other sender associated with other media data including

another media data portion; and" ([0074], each MOD server has the ability serve a separate portion of the media data, where the number of MOD servers varies, 102(1) would be the first device and 102(2) would be the second device)

"wherein the media data portion and the other media data portion are both parts of the media data segment" ([0074]).

Regarding claim 9, Horn and Dias disclose "the system as recited in claim 8, wherein the scheduler is further adapted to formulate another send request that designates the client as a destination for the other media data portion of the media data stream; and

wherein the other sender is further adapted to send the other media data portion to the client in response to the other send request" ([0074]-[0075], where multiple servers have the ability for sending the same or other portions if a current server is unable to do so).

Regarding claim 10, Horn and Dias disclose "the system as recited in claim 1, further comprising:"

"a plurality of devices;" ([0074], Fig. 1, item 102 the MOD servers)

"wherein respective senders of the plurality of senders are functioning on respective devices of the plurality of devices, and respective devices are storing respective media data portions to which respective senders are respectively associated

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and adapted to send to clients" ([0074], Fig. 1, each MOD server has a sender, where the media data must be stored on the server at some point for encoding before the sender can transmit the media data to the client).

Regarding claim 11, Horn discloses "a system comprising:

a first device having a first sender that is adapted to store a first media data block of a media data segment and to send the first media data block to clients responsive to send requests;" ([0074], Fig. 1, each MOD server has a sender, where the media data must be stored on the server at some point for encoding before the sender can transmit the media data to the client)

"a second device having a second sender that is adapted to store a second media data block of the media data segment and to send the second media data block to clients responsive to send requests; and" ([0074]-[0075], where multiple MOD servers have the ability for sending the same or other portions of the media data)

"a scheduler that is adapted to transmit to the first sender a first send request that designates a destination client and stipulates the first media data block and to transmit to the second sender a second send request that designates the destination client and stipulates the second media data block" ([0074], [0077], item 125 the administrative server has the ability to perform the operations of the schedulers on each MOD server when communicating with the MOD servers which contains item 240 for sending the data).

But, Horn does not explicitly state wherein both the first and second end request have a unique global priority, given priority including deadline data or early data and an option count of devices that have the stipulated first or second media data block.

However, Dias discloses a clustered computer system for use with multimedia applications such as video on demand (abstract), where a scheduler located at a file system (col. 6 line 30-43, Fig. 1 item 26) formulates a send request with calculated priority via use of deadline information and fill request (Fig. 3 step 38) and transmits the request to the sender (Fig. 1 item 16, Fig. 3 step 40). Subsequently, the sender then ranks the send request according to the priority (col. 7 lines 28-45, Fig. 3 step 42), where the priority information includes a deadline data structure listing the storage device information containing the media data block (col. 6 lines 50-59).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Horn for coordinating scheduling of send requests between multiple senders capable of sending the data requested with the teachings of Dias for associating priorities with send requests at a scheduler when coordinating send requests between multiple senders capable of sending the data requested from multiple send requests. One would have been motivated to do so for the purpose of addressing more urgent requests accordingly (see Dias col. 2 lines 12-41).

Regarding claim 12, Horn and Dias disclose "The system as recited in claim 11, wherein the first media data block is stored at the first device in random access memory

(RAM) thereof, and the second media data block is stored at the second device in RAM thereof" ([0074], Fig. 1).

Regarding claim 13, Horn and Dias disclose "the system as recited in claim 11, wherein the scheduler is functioning on at least one of the first device, the second device, or a third device" ([0074], [0077], Fig. 1, <u>item 125</u> where the scheduler is functioning on the administrative server, a third device).

Regarding claim 14, Horn and Dias disclose "the system as recited in claim 11, wherein the first sender is further adapted to send the first media data block to the destination client without directing the first media data block through a device on which the scheduler is functioning" (Fig. 1, where item 125 the first device communicates with item 102 the second device, items 108 and 115 the media data are not routed through the first device but straight through item 102 the second device).

Regarding claim 15, Horn and Dias disclose "the system as recited in claim 11, wherein the first sender is further adapted to send the first media data block to the destination client with a packet having a destination address comprising a network address of the destination client" ([0065], [0071]).

Regarding claim 16, Horn and Dias disclose "the system as recited in claim 11, further comprising:

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another scheduler that is adapted to transmit to the first sender a third send request that designates another destination client and stipulates the first media data block and to transmit to the second sender a fourth send request that designates the other destination client and stipulates the second media data block" ([0067], [0074], [0077], where the number of administrative servers is not limited to one, where a administrative server will contain a scheduler for handling the sending of media data in portions where each MOD server handles the sending of a different portion).

Regarding claim 30, Horn discloses "an arrangement for architecting distributed sending of media data, the arrangement comprising:

scheduler means for scheduling media data to be sent to multiple clients with which the scheduler means is associated, the scheduler means including send request means for requesting the sending of the media data to the multiple clients; and" ([0066]-[0067], [0074], [0077], item 125 the administrative server has the ability to perform the operations of the schedulers on each MOD server when communicating with the MOD servers which contains item 240 for sending the data, and there may exist multiple administrative servers which may reside on the same device of particular MOD servers).

sender means for sending media data portions to clients as scheduled by the scheduler means, the sender means including cache means for caching a distributed part of the media data as the media data portions, wherein the sender means sends the media data portions from the distributed part of the media data in response to send

requests received from the send request means ([0074]-[0075], where multiple MOD servers have sending means for the same or other portions of the media data)

But, Horn does not explicitly state generating send requests and associating a unique global priority therewith to request sending of the media data to the multiple clients.

However, Dias discloses a clustered computer system for use with multimedia applications such as video on demand (abstract), where a scheduler located at a file system (col. 6 line 30-43, Fig. 1 item 26) formulates a send request with calculated priority via use of deadline information and fill request (Fig. 3 step 38) and transmits the request to the sender (Fig. 1 item 16, Fig. 3 step 40). Subsequently, the sender then ranks the send request according to the priority (col. 7 lines 28-45, Fig. 3 step 42), where the priority information includes a deadline data structure listing the storage device information containing the media data block (col. 6 lines 50-59).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Horn for coordinating scheduling of send requests between multiple senders capable of sending the data requested with the teachings of Dias for associating priorities with send requests at a scheduler when coordinating send requests between multiple senders capable of sending the data requested from multiple send requests. One would have been motivated to do so for the purpose of addressing more urgent requests accordingly (see Dias col. 2 lines 12-41).

Regarding claim 31, Horn and Dias disclose "the arrangement as recited in claim 30, further comprising:

a plurality of respective sender means for sending respective media data portions to clients as scheduled by the scheduler means, the plurality of respective sender means including a plurality of respective cache means for caching respective distributed parts of the media data as their respective media data portions, wherein respective sender means of the plurality of respective sender means send their respective media data portions from their respective distributed parts of the media data in response to respective send requests received from the send request means" ([0067], [0074]).

Regarding claim 32, Horn and Dias disclose "the arrangement as recited in claim 31, wherein a respective media data portion from each of the respective media data portions of each respective sender means of the plurality of sender means is sent to an individual client to form at least part of a media data asset"

Regarding claim 33, Horn and Dias disclose "the arrangement as recited in claim 30, further comprising:

a plurality of respective scheduler means for scheduling the media data to be sent to respective multiple clients with which each of the respective scheduler means is respectively associated, each respective scheduler means of the plurality of respective scheduler means including a respective send request means of a plurality of respective

send request means for requesting from the sender means the sending of the media data to each of their respective multiple clients" ([0066]-[0067], [0074]).

Regarding claim 34, Horn and Dias disclose "the arrangement as recited in claim 30, wherein the arrangement comprises at least one of (i) one or more processor-accessible media and (ii) at least one device" ([0068]).

Regarding claim 35, Horn and Dias disclose "the arrangement as recited in claim 30, wherein the send request means comprises means for formulating send requests wherein each send request includes a designated destination client of the multiple clients and a stipulated media data portion of the media data portions of the sender means to which a given send request is directed" ([0065]-[0071]).

Regarding claim 36, Horn discloses "one or more processor-accessible media comprising processor-executable instructions that, when executed, cause a system to:

distribute respective media data blocks of a media data segment over respective devices of a plurality of devices;" ([0074], Fig. 1, each MOD server has a sender)

"create respective senders on the respective devices of the plurality of devices, each respective sender capable of sending a respective media data block of the media data blocks; and" ([0074]-[0075], where multiple MOD servers have the ability for sending the same or other portions of the media data)

"create a scheduler on at least one device of the plurality of devices, the scheduler adapted to request the sending of the respective media data blocks from the respective senders to a destination client; wherein the respective senders are capable of sending the respective media data blocks to the destination client without using the scheduler" ([0066], [0074], [0077], item 125 the administrative server has the ability to perform the operations of the schedulers on each MOD server when communicating with the associated MOD servers which contains item 240 for sending the data, and an administrative server and request processor may reside on the same device of the associated MOD server).

But, Horn does not explicitly state ascertaining a threshold priority nor associating a unique priority with the send request.

However, Dias discloses a clustered computer system for use with multimedia applications such as video on demand (abstract), where a scheduler located at a file system (col. 6 line 30-43, Fig. 1 item 26) formulates a send request with calculated priority via use of deadline information and fill request (Fig. 3 step 38) and transmits the request to the sender (Fig. 1 item 16, Fig. 3 step 40). Subsequently, the sender then ranks the send request according to the priority (col. 7 lines 28-45, Fig. 3 step 42). Where the threshold is based on the deadline constraint.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Horn for coordinating scheduling of send requests between multiple senders capable of sending the data requested with the teachings of Dias for associating priorities with send requests at a scheduler when

coordinating send requests between multiple senders capable of sending the data requested from multiple send requests via ranking at the senders using the priority information. One would have been motivated to do so for the purpose of addressing more urgent requests accordingly (see Dias col. 2 lines 12-41).

Regarding claim 37, Horn and Dias disclose "the one or more processor-accessible media as recited in claim 36, comprising the processor-executable instructions wherein the respective senders are further capable of sending the respective media data blocks to the destination client without using the at least one device of the scheduler" ([0066]-[0067], [0074]).

Regarding claim 38, Horn and Dias disclose "the one or more processor-accessible media as recited in claim 36, comprising the processor-executable instructions that, when executed, cause the system to create multiple schedulers with at least one scheduler of the multiple schedulers present on multiple devices of the plurality of devices; and wherein each scheduler of the multiple schedulers is adapted to request the sending of the respective media data blocks from the respective senders to differing destination clients" ([0065]-[0068], [0074]-[0078]).

Regarding claim 39, Horn and Dias disclose "the one or more processor-accessible media as recited in claim 38, comprising the processor-executable instructions wherein the respective senders are further capable of sending the

respective media data blocks to the differing destination clients responsive to send requests received from each scheduler of the multiple schedulers" ([0066]-[0071], [0074]).

Regarding claim 40, Horn and Dias disclose "the one or more processor-accessible media as recited in claim 36, comprising the processor-executable instructions that, when executed, cause the system to distribute respective media data blocks of another media data segment over respective devices of the plurality of devices; wherein each respective sender is further capable of sending a respective media data block of the media data blocks of the other media data segment, and the scheduler is adapted to request the sending of the respective media data blocks of the other media data segment from the respective senders to another destination client" ([0066]-[0071], [0074]).

Allowable Subject Matter

8. Claim 17 and corresponding dependent claims 18-29 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter: The prior art does not disclose the coordinating the scheduling of media transmission from multiple different devices to a destination device with the use of ranking a send request based on a unique priority associated therewith and further

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calculating a threshold based on the ranking along with a send bandwidth where the send request is honored with respect to the unique priority of the send request being above the calculated threshold. Particularly the prior art does not disclose where the ranking is determined by the amount of devices capable of sending the media data, where the priority is lower the more devices that store the media data capable of sending and further does not disclose the following excerpted from independent claim 17 "wherein if none of the plurality of devices that store the media data portion would send the media data portion if all of the plurality of devices were considered when calculating the priority, then selecting a single device of the multiple devices and calculating the priority based on the single device", describing that when calculating priority with regards to multiple devices capable of sending given none of the devices would honor the request when, priority is calculated subsequently as if a single device is capable of sending whereby one of the devices of the multiple devices previously considered is selected for the recalculation.

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARK P. STANLEY whose telephone number is (571)270-3757. The examiner can normally be reached on 8:00AM - 5:00PM Mon-Fri EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Beliveau can be reached on (571) 272-7343. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark P Stanley/ Examiner, Art Unit 2427

/Dominic D Saltarelli/ Primary Examiner, Art Unit 2421